WEST

# Freeform Search

**Database:**
US Patents Full-Text Database
US Pre-Grant Publication Full-Text Database
JPO Abstracts Database
EPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

**Term:** L25 same l7

**Display:** 10 **Documents in Display Format:** - **Starting with Number** 1

**Generate:** ○ Hit List ◉ Hit Count ○ Side by Side ○ Image

Search | Clear | Help | Logout | Interrupt

Main Menu | Show S Numbers | Edit S Numbers | Preferences | Cases

## Search History

**DATE: Friday, September 26, 2003** Printable Copy Create Case

| Set Name side by side | Query | Hit Count | Set Name result set |
|---|---|---|---|
| | *DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ* | | |
| L26 | L25 same l7 | 3 | L26 |
| L25 | l4 with l20 | 1381 | L25 |
| L24 | l22 and l7 | 12 | L24 |
| L23 | L22 same l7 | 0 | L23 |
| L22 | L21 same l9 | 36 | L22 |
| L21 | l20 with l3 | 790 | L21 |
| L20 | shell | 371533 | L20 |
| L19 | l15 with l4 | 36 | L19 |
| L18 | L17 same l4 | 0 | L18 |
| L17 | l15 with l9 | 34 | L17 |
| L16 | L15 same l14 | 3 | L16 |
| L15 | DPPC | 1364 | L15 |
| L14 | l9 with l3 | 1220 | L14 |
| L13 | l12 same l7 | 18 | L13 |
| L12 | l3 with l4 with l9 | 64 | L12 |
| L11 | L10 with l3 | 22 | L11 |
| L10 | L9 with l5 | 4561 | L10 |
| L9 | matrix or encapsulated | 600374 | L9 |
| L8 | L7 with l6 | 14 | L8 |
| L7 | gene therapy or polynucleotide or nucleic acid or plasmid | 159898 | L7 |
| L6 | L5 with l4 with l3 | 90 | L6 |
| L5 | lipid or DPPC | 85320 | L5 |
| L4 | lactose or sugar | 230832 | L4 |
| L3 | albumin | 72397 | L3 |
| L2 | LPSP or lipid-protein-sugar | 15 | L2 |
| | *DB=USPT; PLUR=YES; OP=ADJ* | | |
| L1 | 6312683 | 1 | L1 |

END OF SEARCH HISTORY

WEST

Generate Collection Print

L26: Entry 1 of 3 File: USPT Jun 17, 1997

DOCUMENT-IDENTIFIER: US 5639473 A
TITLE: Methods for the preparation of nucleic acids for in vivo delivery

CLAIMS:

25. The method according to claim 1, wherein said polymeric shell containing said nucleic acid construct is suspended in a biocompatible medium, and wherein said biocompatible medium is selected from water, buffered aqueous media, saline, buffered saline, solutions of amino acids, solutions of proteins, solutions of sugars, solutions of vitamins, solutions of carbohydrates, solutions of synthetic polymers, lipid-containing emulsions, or combinations of any two or more thereof.

WEST

Generate Collection | Print

L19: Entry 17 of 36 File: PGPB Mar 28, 2002

DOCUMENT-IDENTIFIER: US 20020035993 A1
TITLE: Highly efficient delivery of a large therapeutic mass aerosol

Detail Description Paragraph (222):
[0254] Tests were conducted using various formulations of salmeterol. Unless otherwise indicated, micronized salmeterol xinafoate was used in the preparation of the particles. Two such formulations are Formulation 1 (F1) and Formulation 2 (F2) in Table 10. F1 was comprised of 69% DPPC/20% Sodium citrate/10% Calcium chloride/1% salmeterol. F2 was comprised of 29.5% DPPC/29.5% DPPE/20% lactose/20% sodium citrate/1% salmeterol. For comparison, formulations of F1 and F2 both without salameterol were prepared. Two salmeterol containing controls SX1 and SX2 were used in the experiments testing F1 and F2 respectively.

Detail Description Paragraph (237):
[0265] In another experiment, following the procedures in Example 12, the formulations F-2 (0.5), F-2 (1.0), F-2 (2.0), SX-1 (0.5) and SX-2 (1.0) which are described in Table 11 were administered to the animals. The F-2 series of formulations contain salmeterol, DPPC, DPPE, sodium citrate and lactose. Using flow parameters, PenH (enhanced pause or the measurement of airway resistance) was calculated and recorded for each animal. The animals were observed and tested for 25 hours. The results are shown in FIG. 20. SX formulations contain Serevent, the commercially available form of salmeterol. Salmeterol-containing AIR particles (F-2 series on Tables 10 and 11) compare favorably to the Serevent-containing formulations (SX1(0.5) and SX2 (1.0) in Table 11) when blended with AIR particles without salmeterol (sometimes referred to as blanks or placebo particles),. The F-2 formulations generally showed less airway resistance than the SX formulations. Also, all the F-2 formulations consistently showed less airway resistance than SX-1 (0.5).

Detail Description Table CWU (10):
10TABLE 10 Sodium Calcium in wgt. % Salmeterol DPPC DPPE Citrate Chloride Lactose F-1 1 69 -- 20 10 -- F-1 0 70 -- 20 10 -- without salmeterol F-2 1 29.5 29.5 20 -- 20 F-2 0 30 30 20 -- 20 without salmeterol

WEST

Generate Collection | Print

L19: Entry 26 of 36 File: USPT Nov 16, 1999

DOCUMENT-IDENTIFIER: US 5985309 A
**** See image for Certificate of Correction ****
**** See image for Reexamination Certificate ****
TITLE: Preparation of particles for inhalation

Drawing Description Text (8):
FIG. 7 is a graph comparing the in vitro release of albuterol (%) over time (hrs) for compositions with varying ratios of DPPC, albumin, lactose and albuterol.

Detailed Description Text (132):
Fabrication of Estradiol-Containing Lactose:DPPC Particles

Detailed Description Text (134):
Estradiol-containing particles were prepared to illustrate the preparation of large porous particles that contain a relatively large drug fraction by weight. Estradiol particles of standard mass density (greater than 0.4 g/cc) can be made in various ways. In this example, the particles included 30% .beta.-estradiol, 62% lactose and 8% DPPC by weight. The lactose was dissolved in deionized water and the estradiol and DPPC were dissolved in 95% v/v ethanol. The two solutions were combined to form an 85% v/v ethanol solution. The total concentration of powdered starting materials in the solution was 3.25% w/v. The solution was spray dried under the following condition: The inlet temperature was 160.degree. C.; the outlet temperature was 95.degree. C.; the atomization pressure was 2 kp/cm.sup.2 (28.45 psi); and the feed rate was 34 ml/min. The resulting spray dried powder had a tap (mass) density of 0.46 g/ml. The mean diameter based on volume, as measured using a Microtrac particle sizer, was 3.5 .mu.m, thus giving an aerodynamic diameter of 2.4 .mu.m.

Detailed Description Text (138):
Preparation of Lactose:DPPC Carrier Particles

Detailed Description Text (140):
Carrier particles with standard mass density can be prepared via several methods. An example is the following formulation. Solution of lactose in deionized water and DPPC in ethanol were combined to provide a solution containing relative ratios of 67% lactose and 33% DPPC by weight in 85% ethanol, with the total powder concentration in the solution of about 0.1% w/v. The solution was spray dried under the following conditions; the inlet temperature was 200.degree. C.; the outlet temperature was 119.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The yield of this run was 29.3%. The resulting spray dried powder had a tap (mass) density of 0.41 g/ml and a mean diameter by volume average estimated from an SEM of 2.5 .mu.m, thus giving an approximated aerodynamic diameter of 1.6 microns, which is within the desired range of between one and five microns.

Detailed Description Text (141):
Powder composition, powder concentration, solvent composition and spray drier operating conditions are some of the factors which can be varied in order to produce light, porous carrier particles. Large, porous particles can be made that have a donut-like morphology. Such particles can be prepared, for example, by preparing a solution that includes 33% human albumin, 33% lactose, and 33% DPPC by weight. The human albumin and lactose was dissolved in deionized water and the DPPC was dissolved in 95% ethanol. The two solutions were combined to yield an 85% ethanol solution. The total powder concentration was about 0.1% w/v. The solution was spray dried under the

following conditions; the inlet temperature was 110.degree. C.; the outlet temperature was 60.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The yield from this run was 38.5%. The tap (mass) density of the resulting particles was 0.16 g/ml, and the size of this particle on the coulter counter is 7.6 .mu.m, thus giving an approximate aerodynamic diameter of 3.0 .mu.m. (Note: The volume average sizes approximated from the SEM and those determined by the Coulter Counter can be considered equivalent.)

Detailed Description Text (143):
Preparation of Albumin:Lactose:DPPC Particles.

Detailed Description Text (144):
Another type of large, porous particles looks similar to a dried grape. Particles with this type of morphology can be prepared, for example, by spray drying a solution that contains 20% human albumin, 20% lactose, and 60% DPPC by weight. The human albumin and lactose were dissolved in deionized water and the DPPC was dissolved in 95% ethanol. The two solutions were combined to form an 85% ethanol solution. The total powder concentration was about 0.1% w/v. The solution was spray dried under the following conditions; the inlet temperature was 110.degree. C.; the outlet temperature was 60.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The yield was 45.0%. The tap (mass) density of this particle is 0.05 g/ml, and the approximate volume-average size of this particle from the SEM was 7 .mu.m, thus giving an approximate aerodynamic diameter of 1.6 .mu.m. Aerosilization studies of this particle yielded the following results; aerosolized fraction was 58.5%; respirable fraction was 26.6%, and respirable fraction of inhaled aerosol was 43.8%.

Detailed Description Text (146):
Preparation of Albumin:Lactose:DPPC Particles

Detailed Description Text (147):
Various methods can be used to increase the size of the particles. The particles prepared in this example had roughly the same morphology as those in Example 7, but had a larger particle size. The particles were prepared as follows: A solution of 20% human albumin, 20% lactose, and 60% DPPC by weight was spray dried. The human albumin and lactose were dissolved in deionized water and the DPPC was dissolved in 95% ethanol. The two solutions were combined to form an 85% ethanol solution. The total powder concentration was about 0.2% w/v. The solution was spray dried under the following conditions; the inlet temperature was 110.degree. C.; the outlet temperature was 51.degree. C.; the atomization pressure was 2 kp/cm.sup.2 (28.48 psi); and the feed rate was 66 ml/min. The yield from this run was 48.6%. The tap (mass) density of the resulting particles was 0.04 g/ml, and the approximate volume-average size of the particles from the SEM was 10 .mu.m, thus giving an approximate aerodynamic diameter of 2.0 microns.

Detailed Description Text (149):
Spray Drying of Insulin:Albumin:Lactose:DPPC Particles

Detailed Description Text (150):
This example demonstrates that adding less than 20% drug by weight has little change on the particle morphology, size, tap density, and aerosolization characterizations. For example, human insulin was added at a concentration of about 2% by weight of the particles in Example 7. The particles were prepared by spray drying a solution of 2% human insulin, 19% human albumin, 19% lactose, and 60% DPPC by weight. The human insulin, human albumin and lactose were dissolved in deionized water and the DPPC was dissolved in 95% ethanol. The solubility of human insulin in the deionized water was increased by adding a few drops of NaOH (5g NaOH/100 ml deionized water) until the insulin went into solution. The two solutions were combined to form an 85% ethanol solution. The total powder concentration was about 0.1% w/v. The solution was spray dried under the following conditions; the inlet temperature was 110.degree. C.; the outlet temperature of 61.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The yield from this run was 51.1%. The tap (mass) density of the resulting particles was 0.05 g/ml and the approximate volume-average size of this particle from the SEM was 6.5 .mu.m, thus giving an approximate aerodynamic diameter of 1.5 .mu.m. The morphology of the particles was

very similar to the particles in Example 7. Aerosolization studies of these particles yielded the following results: the aerosolized fraction was 45.0%; the respirable fraction was 15.0%; the respirable fraction of the inhaled aerosol was 58.3%.

Detailed Description Text (153):
Albuterol particles with a relatively small amount of drug by weight were also prepared. In this example, particles were prepared according to the procedure in Example 6, except that 4% albuterol by weight of the particle was added. The particles were formed by spray drying a solution containing 4% albuterol, 33% human albumin, 33% lactose, and 33% DPPC by weight. The albuterol, human albumin and lactose were dissolved in deionized water and the DPPC was dissolved in 95% ethanol. The solutions were combined to form an 85% ethanol solution. The total powder concentration was about 0.1% w/v. The solution was spray dried under the following conditions; the inlet temperature was 110.degree. C.; the outlet temperature was 60.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The yield from this run was 46.8%. The tap (mass) density of the resulting particles was 0.15 g/ml and the size of the particles as measured on a Coulter counter was 7.2 .mu.m, thus giving an approximate aerodynamic diameter of 2.8 .mu.m.

Detailed Description Text (156):
Sustained release of insulin out of the particles was achieved by rendering the insulin insoluble. Insulin was dissolved in ultrapure water (0.02% w/v). Protamine was then added (in the proportion insulin/protamine 5/1 w/w) to form an insulin/protamine complex. The formation of the insulin/protamine complex causes the insulin to precipitate. The complex was dissolved by raising the pH to about 5 with HCl so that the solution could be spray dried. Lactose was then added to the solution. The aqueous solution was then mixed with a 95% v/v ethanol solution containing DPPC. The final concentration of each excipient in the 85% v/v solution was insulin/protamine/lactose/DPPC 210.4/37.6/60% w/v. The solution was spray dried under the following conditions; the inlet temperature was 110.degree. C.; the outlet temperature was 60.degree. C.; the atomization pressure was 3 kp/cm.sup.2 (42.72 psi); and the feed rate was 40 ml/min. The ability of the particles to provide sustained release in vitro was evaluated. Particles suspended in phosphate buffer saline at pH 7.4 released less than 10% of the incorporated insulin after 5 hours.

Detailed Description Text (159):
Particles containing a complex of insulin/protamine/zinc were prepared according to the process in Example 11. The concentration of each excipient in the ethanol/water (85:15% v/v) solution was insulin/protamine/zinc chloride/lactose/DPPC 2:0.6:0.25:32.4:60 (% w/v). The solution was spray dried under the same conditions in Example 11. The formulation was also shown to provide sustained release of insulin in vitro.

Detailed Description Text (166):
Release Properties of Albumin:DPPC:Lactose:Albuterol Particles

Detailed Description Text (167):
Particles (mean diameter 10 .mu.m, tap density 0.06 gram.sup.3) were prepared particles as described in Example 7 with 60% DPPC, 18% albumin, 18% lactose, and 4% albuterol to demonstrate that sustained release of a hydrophilic molecule such as albuterol can also be achieved without cholesterol. The in vitro release of albuterol is shown in FIG. 7 both for this formulation and a non-sustained release formulation that included only lactose (96%) and albuterol (4%). Even without cholesterol, the release of the albuterol was sustained for nearly 24 hours.

Detailed Description Text (169):
"Placebo" particles (60% DPPC, 20% albumin, 20% lactose) prepared as described in Example 11 were also administered. Airway resistance following carbachol challenge was measured at eight hours following inhalation and 15 hours following inhalation. The airway resistance was 1.0.+-.0.3 and 1.0.+-.0.2 cm H.sub.2 O/ml/sec., proving that the bronchodilation observed in FIG. 8 was due to slow albuterol release.

Detailed Description Text (170):
Slow albuterol release has also been achieved in vitro using particles prepared by the methods of Example 7 with 10% DPPC, 86% albumin, and 4% albuterol. However particles

prepared with 10% DPPC, 43% albumin, 43% lactose, and 4% albuterol did not display significantly slower albuterol release in vitro, indicating that for relatively low DPPC content, high albumin content is favorable for sustained albuterol release.

Detailed Description Text (171):
These examples demonstrate that by choosing the composition of the spray dried materials and by varying the spray drying parameters, the aerodynamic properties of the inhaled particles can be effectively controlled. More specifically, the composition of the spray dried material especially affects the density and shape of the particles while the spray drying parameters have a stronger affect on their size. For instance, increasing the proportion of lactose in the particles make the particles heavier, while increasing the albumin or dipalmitoyl phosphatidylcholine (DPPC) content makes them lighter. Increasing DPPC content also increases the particle size. Nevertheless, when a relatively small proportion of drug is incorporated in the particles, the characteristics of the particles remain relatively unaffected. Decreasing the inlet temperature largely increases the size of the particles without greatly affecting their tap density. Increasing the feed rate and decreasing the pressure of the compressed air both tend to increase the size of the particles without greatly affecting their density. However, these effects are smaller than those of the temperature.

WEST

Generate Collection Print

L19: Entry 34 of 36 File: USPT Nov 28, 1995

DOCUMENT-IDENTIFIER: US 5470582 A
TITLE: Controlled delivery of pharmaceuticals from preformed porous polymeric microparticles

Detailed Description Text (11):
Suitable excipients, additives, and cryoprotectants include proteins, such as serum albumin; carbohydrates, including simple sugars such as mannitol and sucrose and polysaccharides such as dextran; lipids such as 1,2-dipalmitoyl-sn-glycero-3-phosphocholine (DPPC) and 1,2-dipalmitoyl-sn-glycero-3-[phospho-rac-(1-glycerol)]sodium salt (DPPG), and mixtures thereof; and surfactants such as polysorbate 80 (Tween 80).

# WEST

Generate Collection Print

L24: Entry 9 of 12 File: USPT Jun 17, 1997

US-PAT-NO: 5639473
DOCUMENT-IDENTIFIER: US 5639473 A

TITLE: Methods for the preparation of nucleic acids for in vivo delivery

DATE-ISSUED: June 17, 1997

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|---|---|---|---|---|
| Grinstaff; Mark W. | Pasadena | CA | | |
| Soon-Shiong; Patrick | Los Angeles | CA | | |
| Wong; Michael | Champaign | IL | | |
| Sandford; Paul A. | Los Angeles | CA | | |
| Suslick; Kenneth S. | Champaign | IL | | |
| Desai; Neil P. | Los Angeles | CA | | |

US-CL-CURRENT: 424/450; 424/482, 424/486, 424/488, 424/9.51

CLAIMS:

That which is claimed is:

1. A method for the preparation of articles for in vivo delivery of nucleic acid constructs, said method comprising subjecting aqueous medium containing biocompatible material capable of being crosslinked by disulfide bonds and nucleic acid construct to high intensity ultrasound conditions for a time sufficient to promote crosslinking of said biocompatible material by disulfide bonds;

wherein said nucleic acid construct is substantially completely contained within a polymeric shell, and

wherein the largest cross-sectional dimension of said shell is no greater than about 10 microns.

2. The method according to claim 1, wherein said biocompatible material is a naturally occurring polymer, a synthetic polymer, or a combination thereof,

wherein said polymer, prior to crosslinking, has covalently attached thereto sulfhydryl groups or disulfide linkages.

3. The method according to claim 2, wherein said naturally occurring polymer is selected from proteins containing sulfhydryl groups and/or disulfide groups, polypeptides containing sulfhydryl groups and/or disulfide groups, lipids containing sulfhydryl groups and/or disulfide groups, polynucleic acids containing sulfhydryl groups and/or disulfide groups, or polysaccharides containing sulfhydryl groups and/or disulfide groups.

4. The method according to claim 3, wherein said protein is selected from hemoglobin, myoglobin, albumin, insulin, lysozyme, immunoglobulins, .alpha.-2-macroglobulin, fibronectin, vitronectin, fibrinogen, or combinations of any two or more thereof.

5. The method according to claim 4, wherein said protein is albumin.

6. The method according to claim 4, wherein said protein is hemoglobin.

7. The method according to claim 4, wherein said protein is a combination of albumin and hemoglobin.

8. The method according to claim 3, wherein said polysaccharides are selected from alginate, high M-content alginates, polymannuronic acid, polymannuronates, hyaluronic acid, hyaluronate, heparin, dextran, chitosan, chitin, cellulose, starch, glycogen, guar gum, locust bean gum, dextran, levan, inulin, cyclodextrin, agarose, xanthan gum, carrageenan, heparin, pectin, gellan gum, scleroglucan, or combinations of any two or more thereof.

9. The method according to claim 2, wherein said synthetic polymer is selected from synthetic polyamino acids containing cysteine residues and/or disulfide groups, synthetic polypeptides containing sulfhydryl groups and/or disulfide groups, polyvinyl alcohol modified to contain free sulfhydryl groups and/or disulfide groups, polyhydroxyethyl methacrylate modified to contain free sulfhydryl groups and/or disulfide groups, polyacrylic acid modified to contain free sulfhydryl groups and/or disulfide groups, polyethyloxazoline modified to contain free sulfhydryl groups and/or disulfide groups, polyacrylamide modified to contain free sulfhydryl groups and/or disulfide groups, polyvinyl pyrrolidinone modified to contain free sulfhydryl groups and/or disulfide groups, polyalkylene glycols modified to contain free sulfhydryl groups and/or disulfide groups, as well as mixtures of any two or more thereof.

10. The method according to claim 1, wherein said polymeric shell is modified by a suitable agent, wherein said suitable agent is selected from a synthetic polymer, phospholipid, a protein, a polysaccharide, a surface active agent, a chemical modifying agent, or combination thereof, wherein said agent is associated with said polymeric shell through an optional covalent linkage.

11. The method according to claim 10, wherein said synthetic polymer is selected from polyalkylene glycols, polyvinyl alcohol, polyhydroxyethyl methacrylate, polyacrylic acid, polyethyloxazoline, polyacrylamide, or polyvinyl pyrrolidinone.

12. The method according to claim 10, wherein said phospholipid is selected from phosphatidyl choline (PC), phosphatidyl ethanolamine (PE), phosphatidyl inositol (PI), or sphingomyelin.

13. The method according to claim 10, wherein said protein is selected from an enzyme or antibody.

14. The method according to claim 10, wherein said polysaccharide is selected from starch, cellulose, dextrans, alginates, chitosan, pectin, or hyaluronic acid.

15. The method according to claim 10, wherein said chemical modifying agent is selected from pyridoxal 5'-phosphate, derivatives of pyridoxal, dialdehydes, or diaspirin esters.

16. The method according to claim 1, wherein said nucleic acid constructs are selected from IGF-1 encoding sequence, Factor VIII encoding sequence, Factor IX encoding sequence, or antisense nucleotide sequences.

17. The method according to claim 16, wherein said nucleic acid construct is an IGF-1 encoding sequence.

18. The method according to claim 16, wherein said nucleic acid construct is a Factor VIII encoding sequence.

19. The method according to claim 16, wherein said nucleic acid construct is a Factor IX encoding sequence.

20. The method according to claim 16, wherein said nucleic acid construct is an antisense nucleotide sequence.

21. The method according to claim 1, wherein said nucleic acid construct within said shell is dissolved or suspended in a biocompatible dispersing agent.

22. The method according to claim 21, wherein said biocompatible dispersing agent is selected from soybean oil, coconut oil, olive oil, safflower oil, cotton seed oil, aliphatic, cycloaliphatic or aromatic hydrocarbons having 4-30 carbon atoms, aliphatic or aromatic alcohols having 2-30 carbon atoms, aliphatic or aromatic esters having 2-30 carbon atoms, alkyl, aryl, or cyclic ethers having 2-30 carbon atoms, alkyl or aryl halides having 1-30 carbon atoms, optionally having more than one halogen substituent, ketones having 3-30 carbon atoms, polyalkylene glycol, or combinations of any two or more thereof.

23. The method according to claim 21, wherein said dispersing agent comprises a volatile dispersing agent.

24. The method according to claim 23, wherein said volatile dispersing agent is selected from benzene, toluene, hexane, ethyl ether, dichloromethane, ethyl acetate, or combinations of any two or more thereof.

25. The method according to claim 1, wherein said polymeric shell containing said nucleic acid construct is suspended in a biocompatible medium, and wherein said biocompatible medium is selected from water, buffered aqueous media, saline, buffered saline, solutions of amino acids, solutions of proteins, solutions of sugars, solutions of vitamins, solutions of carbohydrates, solutions of synthetic polymers, lipid-containing emulsions, or combinations of any two or more thereof.

26. A method for the delivery of a nucleic acid construct to a subject in need thereof, said method comprising administering to said subject an article prepared by the method of claim 1 by oral, intravenous, subcutaneous, intraperitoneal, intraperitoneal, intrathecal, intramuscular, intracranial, inhalational, topical, transdermal, suppository (rectal), or pessary (vaginal) routes of administration.